2.0 Description of the Proposed Action and Associated Alternatives

This section describes three reasonable alternatives to address the NNSA's purpose and need stated in Chapter 1. The three alternatives are the Proposed Action (the Establishment of a Trails Management Program at LANL [LANL Trails Management Program Alternative]); the Trails Closure Alternative; and the No Action Alternative that reflects what is now happening and serves as a baseline with which to compare the consequences of the Proposed Action and the Trails Closure Alternative.

2.1 General Overview of Proposed Action (LANL Trails Management Program Alternative)

The Proposed Action would consist of implementing a Trails Management Program at LANL. This program would address both public use of social trails within LANL and also social trail use by workers at LANL and by officially invited guests. The five goals of this management program would be (1) to reduce the risk of damage and injury to property, human life, and health, and sensitive natural and cultural resources from social trail use at LANL; (2) to facilitate the establishment of a safe, viable network of linked trails across the Pajarito Plateau that traverse land holdings of various private and government entities for recreational use and for alternate transportation purposes without posing a threat to DOE and NNSA mission support work at LANL or disrupting LANL operations; (3) to maintain the security of LANL operations; (4) to respect the wishes of local Pueblos to maintain access to traditional cultural properties (TCPs) by Pueblo members while also preventing unauthorized public access to adjacent Pueblo lands and other lands identified as both religious and culturally sensitive areas to Native American communities; and (5) to adapt trail use at LANL to changing conditions and situations in a responsive manner.

There are about 57 miles (mi) (92 kilometers [km]) of social trails within LANL. A total of 13 major social trails have been identified and are known to be in general use at the LANL facility (see Table 1 for a list of these 13 trails). Under the Proposed Action, the 13 major social trails at LANL, and possibly others, would be reviewed through the Trails Management Program using uniform criteria to evaluate each in terms of the five program goals previously noted. Determinations to repair and maintain some social trails subject to specific controls, while

Table 1. Major Social Trails at LANL

Trail Name	Comments
Ancho Springs	Near White Rock Canyon Reserve
Anniversary	Easily accessible from Main Hill Road
Breakneck	Near Anniversary and Los Alamos Canyon Trails
Broken Mesa	Near White Rock Canyon Reserve
Dead Man Crossing	Crosses Los Alamos Canyon
Devaney-Longmire	Crosses Los Alamos Canyon
Los Alamos Canyon	Within Los Alamos Canyon
Mortandad Canyon	North of TAs 35, 50, and 55 and Pueblo land
Mattie Brook	Near TA-21 – a land transfer tract
Painted Cave Access	Close to San Ildefonso lands
Potrillo Canyon	Near White Rock Canyon Reserve
Water Canyon Loop	Near White Rock Canyon Reserve
Wellness Trails network	From TA-3 to TA-16, outside fence

closing other social trails to all recreational users would be made based on the evaluation criteria. Workers at LANL and officially invited guests performing tasks explicitly requiring use of a trail closed to recreational users, may be permitted to do so. Closed trail corridors would be reclaimed as appropriate through the Trails Management Program and signs would be posted to announce their closure. A public information and outreach program would be established to disseminate information about trail closures. Other existing social trails would be identified, considered for continuing use, and either repaired or reclaimed as appropriate. New trails proposed for development within LANL would undergo the same general review performed for the existing trails and may or may not be constructed based on the program assessment.

This Trails Management Program at LANL would initially be composed of a series of individual projects that would be conducted over about 10 years with ongoing, long-term trail maintenance projects conducted thereafter. These initial projects would be conducted to bring selected existing social trails at LANL to the desired end-state for appropriate use, followed by an on-going maintenance program to maintain the social trails in this desired state. One or two of LANL's social trails could be repaired or closed in any given year, contingent on funding. Individual initial and maintenance projects would be separately tailored to the specific needs and conditions of each social trail and would be composed of any or all of several different measures discussed below in this section. Individual projects would employ mechanical or manual repair methods.

New trail development would be considered after the known and identified existing social trails at LANL were evaluated and the trails designated for repair and long-term maintenance had been identified. Each project, for both new trails and for existing trails, would incorporate all of the planning measures listed in this EA section, along with the implementation of any or all of several different safety, security, environmental, and cultural resource protection, repair, and long-term maintenance measures for the identified trail. Additionally, each trail project may also include one or more of the post-repair monitoring and assessment measures detailed below. Measures may be employed either individually or in series for any given area at different time periods.

All program projects and their related activities would be conducted in compliance with LANL site permit requirements and all applicable local, state, and Federal laws and regulations. The Trails Management Program would be consistent with the LANL Comprehensive Site Plan and supporting planning and design standards and guidelines. The planning and implementation of individual projects would be coordinated with adjacent land managers and owners to optimize social trails management across the Pajarito Plateau.

The proposed LANL Trails Management Program would include the following project planning measures. Each of these measures is discussed in greater detail in Section 2.1.1.

- Individual Project Planning Measures
  - Establishment of a Trails Assessment Working Group
  - Trail Use Assessment and Needs Identification
  - Condition and Operational Assessment
  - Security Assessment
  - Identification of Resource Issues
  - Coordination with Land Management Agencies, Pueblos, and Land Owners
  - Development of End-State Conditions

- Formulation of Construction, Repair, and Environmental Protection Measures

After planning is completed and decisions made on which trails to repair or to close, the implementation of each project would include some or all of the following components of the repair and construction measures, environmental protection measures, safety measures, and security measures listed below and discussed in greater detail in Sections 2.1.2, 2.1.3, 2.1.4, and 2.1.5. Worker protection and health and safety measures would always be included for each project.

- Repair and Construction Measures
  - Equipment and Personnel Involved
  - Types of Repair or Construction Measures
- Environmental Protection Measures
  - Threatened and Endangered Species Protection Measures
  - Cultural Resources Protection Measures
  - Water Quality Protection Measures
- Safety Measures
  - Worker Protection and Health and Safety Measures
  - Public Safety Measures
- Security Measures
  - Types of Security Measures

Following the implementation of the repair measures, each individual project may also include one or more post-repair assessment measures and, at a minimum, would include assessment of the desired end-state conditions achieved by project implementation (discussed in detail in Section 2.1.6).

- End-State Conditions and Post-Repair or Post-Construction Assessment
  - Cultural and Ecological Field Studies
  - Watershed Assessment and Monitoring
  - Damages Assessment
  - Health and Safety Assessment
  - Security Assessment

Long-term maintenance projects would follow to maintain the desired end-state condition for each trail. Long-term maintenance measures would be planned according to the previously stated planning measures when it is determined that maintenance is necessary. Trail conditions would be reviewed about every five years or as needed. In addition to measures used initially to repair a trail, periodic mowing and grading of access roads and trail treads would also be employed during the long-term maintenance of some trails. Long-term maintenance measures would integrate environmental protection, public safety, and security measures in a similar manner as employed by the initial project. Engineering best management practices (BMPs) should be used to implement tasks addressing these issues.

A future trail maintenance project along a specific existing social trail might, for example, consist of all the listed planning measures; implementation of repair measures; implementation of measures for protection of environmental resources; post-repair end-state assessment and ecological field studies; and implementation of periodic long-term maintenance measures. A

future new trail might, for example, undergo all listed planning measures; undergo construction; and then undergo end-state assessment with cultural and ecological resources field studies.

2.1.1 Individual Project Planning Measures

The first step in the implementation of each project would be to formulate action plans that would identify potential trail uses and users and would assess potential risks and environmental concerns. Repair or construction plans would be developed later. The planning process would consist of several elements that are discussed as follows:

Establishment of Trails Assessment Working Group. LANL would lead and coordinate a standing committee that would include LANL cultural, ecological, health and safety, security, site planning, and facilities specialists and representatives from NNSA. Los Alamos County, Bandelier National Monument, the Santa Fe National Forest, and the four Accord Pueblos would be invited to participate. The Trails Assessment Working Group would convene as necessary to conduct trail assessments and needs identification and the health and safety, security, and resource assessments that are described below. The Trails Assessment Working Group would advise the LANL Associate Director of Operations (ADO) on trails management within LANL boundaries and, as appropriate, advise and represent the ADO on trails issues involving adjacent properties.

Use Assessment and Needs Identification. Trail users and uses of existing trails would be determined. This effort would be founded upon assessments conducted by the Trails Assessment Working Group. Existing and proposed trails would be inventoried and types of users identified using surveys of LANL workers and County residents. The need for future trails construction and use would be similarly assessed.

Condition and Operational Assessment. Trails at LANL present varying degrees of health and safety risks to users. Each trail would be evaluated to identify site conditions and for operational factors such as the presence of soils and vegetation contaminated with radioactive, organic, or high explosives products; and trail proximity to PRSs, waste storage areas, radiation buffers, high-explosives exclusion zones, or various experimental areas. Some trails may be suitable for general public use while others may be suitable only for workers at LANL and officially invited guests.

Security Assessment. Physical and operational security is essential to supporting LANL mission requirements. Trail use cannot create situations that would compromise this security. Each trail would be evaluated to determine security implications resulting from its continued use. A trail that may otherwise appear to be suitable for use by the public could be permanently or temporarily closed because of security concern issues.

Identification of Sensitive Resource Issues. Integral to the development of a Trail Management Program is the identification of resource issues particular to individual trail reaches within LANL. These resource issues or conditions can include the presence of threatened and endangered species in the area and associated potential or occupied habitat; the presence of cultural resources, including TCPs; the presence of wetlands; and susceptibility of the trail reach to erosion. Many of these resource issues are discussed in existing LANL documents. Management plans have been prepared for some of these individual resources, and when available, these plans would be prime information and guidance documents. For example, the LANL Threatened and Endangered Species Habitat Management Plan (LANL 1998) (currently

being modified to incorporate habitat changes as a result of the Cerro Grande Fire) is used to direct proposed activities away from areas of potential use by threatened and endangered species or to sufficiently impose mitigation measures on such activities so as to render them non-adverse in effect to the species or their potential habitat areas. Likewise, the presence of sensitive cultural resources on or near a trail could require all or a portion of the trail to be closed or rerouted. Additional regulator consultation with regard to the *Endangered Species Act of 1973* (ESA) and the *National Historic Preservation Act* (NHPA) may be required for trail projects planned within sensitive areas. Resource management plans for some sensitive resources at LANL are in development and will be completed over about the next five years. Identification of sensitive resource areas at LANL would be based on the current best available information and trail use would be considered for the trail reaches based on that information.

Coordination with Neighboring Land Management Government Agencies, Pueblos, and Other Land Owners. Coordination with neighboring land management entities would be integral to the trail use program planning process. Currently, coordination of issues spanning the Pajarito Plateau is accomplished through the East Jemez Resource Council, which is composed of regional governmental agencies, Pueblos, and other landowners who manage land along the east flank of the Jemez Mountains. This coordination would serve to maximize trail use planning and end-state conditions and could result in cooperative participation in the implementation of certain repair measures. The Trails Assessment Working Group could coordinate land management issues related to trails at LANL through working groups such as the East Jemez Resource Council. DOE's American Indian Tribal Government Policy (DOE 1992) outlines the process used to implement government-to-government consultations with neighboring Pueblos and Tribes. This policy would be employed when addressing the concerns of these communities.

Development of End-State Conditions and Recommendation to Close or Maintain Trails. One of the key planning objectives would be the ultimate trail condition that would be desired as the end-state of the projects initiated and maintained under the Trails Management Program. At most locations within LANL, the desired trail end-state condition for recreational use would be a trail with a minimum of readily visible engineered features that is appropriately accessible for its intended users. For LANL worker use, the desired end-state would be a trail that is in a safe condition and that perhaps minimized walking distances between two facility or use areas. In other cases, the desired end state would be to close and reclaim a trail and perhaps also to rehabilitate previously affected resources. Planning the exact end-state conditions desired for a trail would be accomplished through the steps previously mentioned and consideration of site and surrounding area conditions and the trail's identified cultural sensitivities. This could include either maintaining or closing a given trail or trail segment. End-state trail conditions would be regularly monitored and evaluated during post-treatment assessments. Options could include restricted use by workers at LANL for work-related purposes and by officially invited guests; or use could be open to the general public for recreational purposes. The appropriate options for end-state trail use would include non-motorized modes such as walking and hiking, horseback riding, cross-country skiing, and bicycling.

Formulation of Construction, Repair, and Environmental Protection Measures. Recognizing the planning considerations addressed above, construction and repair plans would be developed for each trail. Primary trail construction and repair measures would focus on enhancing the aesthetics of the trail for its intended users and those that address health and safety issues. These measures are further discussed in Section 2.1.2. The identification and inclusion of

environmental protection measures that would be taken to protect the quality of identified resources is discussed further in Section 2.1.3. These construction and repair plans would be referenced in any contract requirements.

Repair and construction work has the potential to disturb previously unknown hazardous waste disposal sites or previously unknown cultural resources. If excavation or construction activities disclose previously unknown or suspect disposal sites, work would be stopped and LANL's Environmental Restoration Project staff would review the site and identify procedures for working within that site area. Soils from PRSs may be returned to the excavated area after disturbance when feasible or would be characterized and disposed of appropriately. Should previously unknown cultural resources be discovered during construction or repair work, work would stop and LANL's cultural resources specialists would review the evidence, identify procedures for working in the vicinity of the cultural resources, and initiate any necessary consultation with Federal, state, and tribal entities.

2.1.2 Repair and Construction Measures

Initial repair, ongoing maintenance, and new construction measures would be identified for each trail project based on individual site conditions and the desired end-state results. Common to all projects would be the use of appropriate equipment and qualified personnel.

Equipment and Personnel Involved. A typical individual project would involve from 6 to 20 qualified personnel. One or two vehicles such as cars and light duty trucks may also be required. Areas with slopes that exceed 30 percent, and single-track trails, would not be repaired or constructed using vehicular equipment. Hand-held tools and equipment like shovels, axes, and chainsaws could be used to repair single-track trails and areas exceeding 30 percent slope. It may also be appropriate to use animals to bring equipment and supplies into such areas. Dust suppression requirements could necessitate the use of water spray trucks or hand-held spray equipment.

Types of Repair Measures. Typical repair and construction measures would be those normally associated with trails that have been frequently used but have lacked regular maintenance over the years. Access roads could be improved, or blocked and removed. A parking area might be expanded or improved, or closed off to use. A trail segment might be stabilized using engineering BMPs such as the use of silt fences, straw bales, organic mulch material, concrete, stones, or gravel to check erosion and improve trail safety. Signs and fencing or barriers would be installed to direct or redirect trails, or close off trails to future use. Trail segments could be repaired, reinforced, or reclaimed. Drainage elements, such as berms, check dams, drains, riprap, gabions or culverts, could be repaired, redirected, relocated, or installed. A site-specific National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention (SWPP) Plan would be prepared, and a Notice of Intent (NOI) would be filed under the NPDES General Permit for construction activities, if necessary.

Some removal of individual trees and bushes along trails may occur during trail maintenance activities, such as the removal of damaged, dead, or so-called "hazard" trees. Additionally, some vegetation may be removed from small areas when these are cleared to enlarge existing or to construct new trailhead vehicle parking accommodations. Vegetation may also be selectively removed along new trail reaches as the construction of new trails occurred.

Repair and construction work would be planned, managed, and performed to ensure that standard worker safety goals are met and that work would be performed in accordance with good management practices, regulations promulgated by the Occupational Safety and Health Administration, and LANL resource management plans, including the Wildfire Hazard Reduction Program. To prevent serious work-related injuries, all site workers would be required to adhere to a construction safety and health plan reviewed by LANL staff before construction activities begin. Various DOE orders involving worker and site safety practices and environmental regulations and other laws may also apply. Engineering BMPs would also be employed.

2.1.3 Environmental Protection Measures

Integral to repair and construction measures for the Trails Management Program would be complementary measures to protect and enhance cultural and natural resources. The various environmental protection measures are discussed in more detail here. For any single project it would be unlikely that all the measures would be employed at the same time, but a single project may well use multiple protective measures to complement the chosen treatment measure(s).

Cultural Resources Protection Measures. The planning process would include the identification, as necessary, of cultural resources present along and near each trail and consideration of the historic significance of the trails. This identification process would include consultation with the four Accord Pueblos regarding the potential presence of TCPs and other traditionally or culturally sensitive areas as identified by these communities. Protective measures could include the following:

Repairs and Maintenance. Cultural resources would be avoided to the maximum extent practicable and may involve construction (or reconstruction) of trails (or segments of trails) around cultural resources (with the original trail being reclaimed in the case of existing trails). The perimeter of identified cultural features would be marked with flagging tape, or pin flags, or both. These sites would be field checked by trained archeologists with the repair or construction crews before field activities commence. If construction was necessary within an identified cultural resource feature, construction crews would be limited to performing work by hand. No tree cutting, piling, or dragging of materials across the surface of a cultural site would be permitted. The SHPO would be consulted as necessary, depending on the nature of the repair and maintenance.

Trail Construction. New trail alignments and ancillary drainage features would be planned to avoid cultural resources, including any TCPs. Cultural resources located near trail alignments would be identified with flagging tape, or pin flags, or both, to avoid inadvertent damage by equipment or personnel. These resources may also be fenced. Identification and protection measures would be removed following treatment activities to prevent the identification of the cultural resource and reduce the potential for vandalism.

Threatened and Endangered Species Protection Measures. The presence of threatened and endangered species and their potential or occupied habitats would be trail planning considerations. There are three Federal listed species that currently use LANL areas as habitat–the bald eagle (*Haliaeetus leucocephalus*), Mexican spotted owl (*Strix occidentalis lucida*), and the southwestern willow flycatcher *(Empidonax traillii extimus*). All features of planned trail actions and use would be developed and implemented in accordance with guidance and restrictions contained in the LANL Threatened and Endangered Species Habitat Management

Plan (LANL 1998) or developed in compliance with the ESA, and other pertinent laws and regulations.

Surface Water Quality Protection Measures. Trail-related environmental protection measures for avoiding potential adverse consequences to surface water quality would include the following:

- Pursuant to NPDES General Permit requirements for preconstruction activities, a SWPP Plan would be developed and implemented for trail projects and an NOI would be filed if required.
- Severely disturbed or denuded areas would be revegetated. Revegetation measures would use native species appropriate for the associated plant community.
- Storm water control structures would be constructed along trails as needed. These could include straw bales or log check dams during construction and repair and culverts, ditches, riprap, check dams, and similar permanent structures.
- Channel stabilization measures would be employed along trails as needed.
- Hand-held equipment would generally be used along trails to reduce the potential for erosion. Vehicular equipment would not be used in areas with slopes of greater than 30 percent, or on single-tread trails.
- Heavy machinery and vehicles would not be used during saturated soil conditions.
- Any new trail access roads would be constructed on slopes of less than 10 percent with bar ditches and turnouts, as appropriate.

2.1.4 Safety Measures

Safety measures would be put in place during trail repair, maintenance, and construction for worker and public protection and also when the trails are open for routine use.

Worker Protection and Health and Safety Measures. The following measures would be employed for the health and safety of trails workers:

- Trails workers would wear personal protective equipment suitable for the conditions of any given trail project.
- Trails workers would be appropriately trained when working in or near PRSs, radiological areas, and other hazardous areas.
- Access to trails being repaired or under construction would be restricted to involved personnel.
- Additional health and safety measures would be developed specific to site conditions as necessary.

Public Safety Measures. The following measures would be employed for public safety on LANL trails:

- Signs would be posted at trailheads declaring the rules and cautions for trail use. Signs prohibiting use would be placed at closed trailheads. Signs would have consistent appearance and be posted where they would be obvious pursuant to LANL Wayfinding design standards. Signs would list emergency phone numbers. Trail markers would be

placed along trails to be visible but not obtrusive. Appropriate signs would be used to preclude unauthorized public access during temporary trail closures.

- Physical barriers would be placed at trailheads or along trails to preclude inappropriate uses while permitting entry for intended users. These might employ structural or natural elements such as fences and gates, logs, or large rocks. In some cases, trails could be limited to specific uses such as only for walking or bicycling.
- Trail users on more remote trails not used for commuting purposes could be requested to sign in at the trailhead.
- Overnight use, smoking, camping, or campfires would not be allowed within LANL. Weapons, explosives, and other materials likely to cause substantial injury or damage to persons or property would not be permitted; nor would alcoholic beverages, controlled substances, lighters, or incendiary devices.
- Certain trails could be appropriate for equestrian use or for dog exercise or training use; access to these trails would be suitably provided and the trails would be appropriately posted. Other trails could be posted informing users that horses or dogs would not be permitted and trail access would exclude horses or dogs accordingly.
- Unauthorized motorized vehicles, including all terrain vehicles, scooters, mopeds, and motorcycles, would be prevented from using any trail within LANL boundaries.
- In order to minimize impacts to traffic, proper sizing and design of parking and gathering areas would consider ingress and egress from adjacent roads. Specific needs and designs would be assessed in the planning phase prior to construction to ensure minimal disturbance of traffic in critical areas.

2.1.5 Security Measures

The Trails Management Program cannot compromise LANL security. The following passive and active security measures would be incorporated into the Trails Management Program:

- Sign and fencing upgrades would be made around LANL.
- Signs would indicate where access is permitted and the use rules that apply. Other signs would prohibit entry to areas of LANL that are not publicly accessible.
- In certain instances, signs could preclude entry into areas that had previously been accessible by the general public.
- Fences could be installed in certain areas and at trailheads to help distinguish clearly those trails that would be open to the general public and those that would be closed to the general public.
- Security patrols would be enhanced contingent upon resources and funding. An interagency agreement could provide for enforcement (for example, by the National Park Service) based upon locations and the nature of the incursion or trespass.

2.1.6 End-State Conditions and Post-Repair or Post-Construction Assessment

The successful implementation of a Trails Management Program at LANL would be determined by assessing the achievement of resource goals and objectives listed in Section 2.1. A key

element of the Trails Management Program would be post-repair or post-construction assessments. This also refers to instances when a trail would be obliterated and closed. Field assessments would be conducted to monitor the effectiveness of measures undertaken to achieve the desired goals, the need to modify the measures used, and to help develop future management or repair strategies. The majority of post-repair or post-construction assessments would be conducted in the field. At a minimum, all trail projects would incorporate an end-state condition assessment. The following activities would compose the post-repair or post-construction assessments:

Cultural and Ecological Field Studies. Cultural and ecological studies are important tools for assessing the effects of employed protection measures on cultural resource sites and on the local fauna and flora. Based on need and funding, post-treatment studies would be initiated for archeological sites, historical sites, TCPs, threatened and endangered species and their habitat, large and small mammals, arthropods, birds, reptiles, amphibians, bio-contaminant availability, contaminant movement, and vegetation changes.

Field surveys for archeological and historical sites, as well as wildlife, and the vegetative characteristics of forests and woodlands are currently being conducted in the Los Alamos region. The results of these quantitative surveys are being used to develop cultural resources inventories, plant community classifications, and a more complete understanding of wildlife movements and populations in order to relate these classes to their respective environmental and topographic conditions. Information about the location and types of cultural resources present at LANL are useful to facilitate their protection from future activities or their restoration. Some of this information is protected under Federal and State of New Mexico regulations and laws and is not publicly available.

Watershed Assessment and Monitoring. The trail projects may require the development of a SWPP Plan per NPDES permit requirements. The SWPP Plan would list BMPs for monitoring and protecting watersheds for trails maintenance and use. Part of the monitoring program could be linked to the existing water-sediment discharge sampling station network located throughout the major drainages at LANL.

Damages Assessment. Trails would be monitored periodically for damage and treatments would be assessed to determine their effectiveness.

Health and Safety Assessment. Post-repair and post-construction trails assessments would be used to monitor and evaluate health and safety conditions, incidents, and occurrences.

Security Assessment. Security occurrences would be tracked for each trail and for the trail system to determine whether certain trails posed enforcement problems such as trespassing onto Pueblo lands or serious vulnerabilities to LANL operations.

2.2 Trails Closure Alternative

This alternative would result in the closing of all existing social trails to the general public and to LANL workers for recreational use purposes. Most LANL trails would be closed and reclaimed. Workers at LANL and officially invited guests engaged in official work and permitted activities would be allowed to continue using certain designated trails based upon the assessments and measures discussed previously in Section 2.1. DOE's American Indian Tribal Government Policy would be used to guide consultations with neighboring Pueblos in matters regarding trails closure. Trails designated for closure would be rendered inaccessible and undesirable by a

combination of physical barriers, enhanced security patrols, and penalties for trespassing. The closing of trails could include some of the components of repair and construction measures, environmental protection measures, safety measures, and security measures, as well as end-state conditions as described in Section 2.1 for the Proposed Action. Signs and fencing or manufactured or natural barriers might be installed to close off trails to future use. Trail beds and segments could be removed and restored to more natural conditions. Drainage elements, such as berms, check dams, drains, riprap, gabions, or culverts, could be repaired or installed to remediate closed trails. Cultural resources located near a trail being closed would be identified to avoid inadvertent damage by remediation equipment or personnel. Protection measures would be removed following treatment activities to prevent the identification of the cultural resource and potential for vandalism. Trail closures would be implemented in accordance with guidance and restrictions contained in the LANL Threatened and Endangered Species Habitat Management Plan (LANL 1998) or developed with further compliance with the ESA as necessary. Severely disturbed or denuded areas would be revegetated, and revegetation measures would use native species appropriate for the associated plant community. Trail workers would wear personal protective equipment suitable for the conditions of any given trail closure project. Trail workers would be appropriately trained when working in or near PRSs, radiological areas, and other hazardous areas, and access to trails being repaired or under construction would be restricted to involved personnel. Security patrols would be used according to need and budget. Post-closure field assessments would be performed.

2.3 No Action Alternative

The No Action Alternative describes existing conditions and serves as a baseline for comparing the potential environmental effects of the Proposed Action. It must be considered even if DOE is under a court order or legislative command to act (10 CFR 1021). Under this alternative, the existing social trails at LANL would continue to deteriorate and repairs would not be regularly performed. Over time, some trails may be closed for safety or security reasons. Closed trails would not be reclaimed or maintained. Limited repairs would continue to be made without an overall prioritization and without coordinating with adjacent landowners, Federal agencies, or tribal governments. New social trails would continue to be created. There would be no trails assessment, planning, or management process, nor would efforts to coordinate trails management with other jurisdictions occur. Signs, fencing, parking, and other trail-related improvements would not be made. Trespassing (both intentional and inadvertent) onto areas at LANL that are not intended for public access via unchecked trail use would continue with uneven enforcement. LANL operational and security concerns affected by trails would continue to be addressed on an incremental and uncoordinated basis.

2.4 Alternatives Considered but Dismissed

2.4.1 Open All Existing Trails at LANL for Unrestricted Recreational Use

Opening all existing trails at LANL to the public for unrestricted recreational use would be inconsistent with the primary mission assigned to NNSA by Congress. Trails management objectives would not be met by opening all existing trails at LANL to unrestricted recreational uses; such an action would compromise certain environmental and cultural resources, public health and safety, LANL security perimeters, and, ultimately, it would compromise LANL national security operations. This alternative was not analyzed further in this EA.

2.4.2 Individual Specific Trails for Repair or Closure (non-programmatic)

Another alternative that was considered during scoping this EA was to review individual trails at LANL and to make specific recommendations for a proposed action based upon an analysis of affected resources. This alternative was not considered further because it was not considered to be as effective over the long-term as the Proposed Action (establishing a Trails Management Program). Specifically, the Proposed Action establishes an ongoing program; such a program would allow for greater flexibility as laws, rules, regulations, DOE orders, and national and local conditions change. Considering specific individual trails with the intent of performing one-time maintenance or closing some of them was therefore not analyzed in this EA.

2.5 Related NEPA Actions and Documents

2.5.1 Final Site-Wide Environmental Impact Statement (SWEIS)

The Final LANL Site-Wide Environmental Impact Statement (SWEIS) (DOE 1999a), dated January 1999, was issued in February of that year. A Record of Decision (ROD) was issued in September 1999, and a Mitigation Action Plan was issued in October 1999. The SWEIS considered ecological, natural, and cultural resources at LANL and analyzed how they would be impacted by four alternative operating scenarios, but it did not specifically address trail use. This EA tiers from the SWEIS.

The SWEIS Mitigation Action Plan also establishes a commitment to develop and implement a Natural Resources Management Plan. The Natural Resources Management Plan would be used to effectively "manage natural resources in a fashion that directly supports DOE's Land and Facility Use Planning Policy by integrating mission, economic, ecological, social, and cultural factors into a comprehensive process for guiding land and facility use decisions at LANL" (DOE 1999a). In September 2002, NNSA issued the *Integrated Natural and Cultural Resources Management Plan* (IRMP) for LANL. The IRMP provides the conceptual framework for developing and implementing a Trails Management Program as part of appropriate management of natural and cultural resources at LANL.

2.5.2 Final Environmental Impact Statement for the Conveyance and Transfer of Certain Land Tracts Administered by the U.S. Department of Energy and Located at Los Alamos National Laboratory, Los Alamos and Santa Fe Counties, New Mexico (C&T EIS)

On November 26, 1997, Congress passed PL 105-119, the *Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act,* 1998 (42 USC 2391). Section 632 of the Act directs the Secretary of Energy to convey to the Incorporated County of Los Alamos, New Mexico, or to the designee of Los Alamos County, and to transfer to the Secretary of the Interior, in trust for the Pueblo of San Ildefonso, parcels of land under the jurisdictional administrative control of the Secretary at or in the vicinity of LANL that meet certain identified criteria. A ROD for this action was issued in December 1999. DOE prepared the C&T EIS (DOE 1999b) to examine potential environmental impacts associated with the conveyance or transfer of each of the land parcels tentatively identified in the DOE's *Land Transfer Report to Congress Under Public Law 105-119, A Preliminary Identification of Parcels of Land in Los Alamos, New Mexico, for Conveyance or Transfer* (DOE 1998). Trail use was a concern considered in the C&T EIS analysis because changing the jurisdictions for some of the social trails could result in changes to how they are managed, or if they would remain open for

public use. Trails on lands conveyed or transferred would not be included in the Trails Management Program.

2.5.3 Special Environmental Analysis–Cerro Grande Fire

NNSA prepared a special environmental analysis (DOE 2000a) that documents its assessment of impacts associated with emergency activities conducted at LANL in response to major disaster conditions caused by the Cerro Grande Fire. NNSA would normally have prepared an EIS in compliance with NEPA to analyze potentially significant beneficial or adverse impacts that could occur if a proposed action was implemented. However, because of the urgent nature of the actions required to address the effects of the Cerro Grande Fire as it burned over LANL and the need for immediate post-fire recovery and protective actions, NNSA had to act immediately and was therefore unable to comply with NEPA in the usual manner. NNSA invoked the CEQ's emergencies provision of its NEPA Implementing Regulations (40 CFR 1500-1508) and the emergency circumstances provision of DOE's NEPA Implementing Regulations (10 CFR 1021). Pursuant to those provisions, NNSA consulted with CEQ about alternative arrangements for NEPA compliance for its emergency action. Consistent with agreements reached during those consultations, NNSA prepared the DOE/SEA-03 (DOE 2000a) of known and potential impacts from wildfire suppression, post-fire recovery, and flood control actions. The DOE/SEA-03 can be found in DOE Reading Rooms in Albuquerque (at the Government Information Department, Zimmerman Library, University of New Mexico), and in Los Alamos (at the Community Relations Office located at 1619 Central Avenue). Trail use was affected by the Cerro Grande Fire and the remediation that followed.

2.5.4 Wildfire Hazard Reduction and Forest Health Improvement Program at Los Alamos National Laboratory

This EA was completed in August 2000, just two months after the Cerro Grande Fire, and analyzed alternatives for implementing a Wildfire Hazard Reduction and Forest Health Improvement Program at LANL that would not use fire as a treatment measure. This ecosystem-based management program, which was implemented immediately, is a series of individual, small-scale projects using mechanical and manual thinning methods that includes ongoing, long-term maintenance projects. Following the Cerro Grande Fire, LANL implemented an aggressive forest-thinning project to address the immediate threat of wildfire to the site. As a result, an estimated 30 percent, approximately 7,500 acres (ac) (3,035 hectares [ha]), of LANL has been treated under this program using forest thinning and the construction of access roads and fuel breaks as treatment measures. Some of the trails subject to a Trails Management Program traverse these treated areas.

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